

**THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

IMMERSION CORPORATION	§	
	§	
v.	§	CASE NO. 2:17-CV-572-JRG
	§	LEAD
SAMSUNG ELECTRONICS AMERICA,	§	
INC., et al.	§	

**CLAIM CONSTRUCTION**  
**MEMORANDUM AND ORDER**

Before the Court is the Opening Claim Construction Brief (Dkt. No. 72) filed by Plaintiff Immersion Corporation (“Plaintiff” or “Immersion”), Defendants Samsung Electronics America, Inc. and Samsung Electronics Co., Ltd.’s (collectively, “Samsung’s”) Responsive Claim Construction Brief (Dkt. No. 73), and Plaintiff’s reply (Dkt. No. 74). The Court held a claim construction hearing on October 9, 2018.

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## I. BACKGROUND

Plaintiff brings suit alleging infringement of United States Patents Nos. 6,429,846 (“the ’846 Patent”), 7,969,288 (“the ’288 Patent”), 7,982,720 (“the ’720 Patent”), 8,031,181 (“the ’181 Patent”), 8,619,051 (“the ’051 Patent”), and 9,323,332 (“the ’332 Patent”) (collectively, “the patents-in-suit”). (See Dkt. No. 72, Exs. A–I.) The parties have presented disputed terms that appear in the ’846 Patent, the ’720 Patent, and the ’181 Patent. Although the specifications of the ’846 Patent, the ’720 Patent, and the ’181 Patent are not identical, these patents share a common ancestry.

The ’846 Patent, the ’720 Patent, and the ’181 Patent are each titled “Haptic Feedback for Touchpads and Other Touch Controls.” The ’846 Patent issued on August 6, 2002, the ’720 Patent issued on July 19, 2011, and the ’181 Patent issued on October 4, 2011. Each of the ’846 Patent, the ’720 Patent, and the ’181 Patent bears an earliest priority date of June 23, 1998. The Abstracts of the ’846 Patent, the ’720 Patent, and the ’181 Patent state:

A haptic feedback planar touch control used to provide input to a computer. A touch input device includes a planar touch surface that inputs a position signal to a processor of the computer based on a location of user contact on the touch surface. The computer can position a cursor in a displayed graphical environment based at least in part on the position signal, or perform a different function. At least one actuator is also coupled to the touch input device and outputs a force to provide a haptic sensation to the user contacting the touch surface. The touch input device can be a touchpad separate from the computer’s display screen, or can be a touch screen. Output haptic sensations on the touch input device can include pulses, vibrations, and spatial textures. The touch input device can include multiple different regions to control different computer functions.

The ’846 Patent, the ’720 Patent, and the ’181 Patent name inventors Louis B. Rosenberg and James R. Riegel and are sometimes referred to by the parties as the “Rosenberg” patents.

The District of Delaware construed terms in the ’846 Patent in *Immersion Corporation v. HTC Corporation*, No. 12-259. The proceedings in *HTC* included a Memorandum Opinion

regarding claim construction as well as a separate Claim Construction Order. *See HTC*, Dkt. No. 332, 2015 WL 581572 (D. Del. Feb. 11, 2015) (“*HTC Memorandum Opinion*”) (Andrews, J.) (attached to Defendants’ response brief (Dkt. No. 73) as Ex. 2); *see also HTC*, Dkt. No. 337, 2015 WL 11111076 (D. Del. Feb. 18, 2015) (“*HTC Order*”) (Andrews, J.) (attached to Plaintiff’s Reply Brief (Dkt. No. 74) as Ex. 30).

## II. LEGAL PRINCIPLES

Claim construction is clearly an issue of law for the court to decide. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970–71 (Fed. Cir. 1995) (en banc), *aff’d*, 517 U.S. 370 (1996). It is understood that “[a] claim in a patent provides the metes and bounds of the right which the patent confers on the patentee to exclude others from making, using or selling the protected invention.” *Burke, Inc. v. Bruno Indep. Living Aids, Inc.*, 183 F.3d 1334, 1340 (Fed. Cir. 1999).

“In some cases, however, the district court will need to look beyond the patent’s intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period.” *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015) (citation omitted). “In cases where those subsidiary facts are in dispute, courts will need to make subsidiary factual findings about that extrinsic evidence. These are the ‘evidentiary underpinnings’ of claim construction that we discussed in *Markman*, and this subsidiary factfinding must be reviewed for clear error on appeal.” *Id.* (citing 517 U.S. 370).

To ascertain the meaning of claims, courts look to three primary sources: the claims, the specification, and the prosecution history. *Markman*, 52 F.3d at 979. The specification must contain a written description of the invention that enables one of ordinary skill in the art to make and use the invention. *Id.* A patent’s claims must be read in view of the specification, of which

they are a part. *Id.* For claim construction purposes, the description may act as a sort of dictionary, which explains the invention and may define terms used in the claims. *Id.* “One purpose for examining the specification is to determine if the patentee has limited the scope of the claims.” *Watts v. XL Sys., Inc.*, 232 F.3d 877, 882 (Fed. Cir. 2000).

Nonetheless, it is the function of the claims, not the specification, to set forth the limits of the patentee’s invention. Otherwise, there would be no need for claims. *SRI Int’l v. Matsushita Elec. Corp.*, 775 F.2d 1107, 1121 (Fed. Cir. 1985) (en banc). The patentee is free to be his own lexicographer, but any special definition given to a word must be clearly set forth in the specification. *Intellicall, Inc. v. Phonometrics, Inc.*, 952 F.2d 1384, 1388 (Fed. Cir. 1992). Although the specification may indicate that certain embodiments are preferred, particular embodiments appearing in the specification will not be read into the claims when the claim language is broader than the embodiments. *Electro Med. Sys., S.A. v. Cooper Life Sciences, Inc.*, 34 F.3d 1048, 1054 (Fed. Cir. 1994).

This Court’s claim construction analysis is substantially guided by the Federal Circuit’s decision in *Phillips v. AWH Corporation*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). In *Phillips*, the court set forth several guideposts that courts should follow when construing claims. In particular, the court reiterated that “the claims of a patent define the invention to which the patentee is entitled the right to exclude.” *Id.* at 1312 (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). To that end, the words used in a claim are generally given their ordinary and customary meaning. *Id.* The ordinary and customary meaning of a claim term “is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Id.* at 1313. This principle of patent law flows naturally from the recognition that

inventors are usually persons who are skilled in the field of the invention and that patents are addressed to, and intended to be read by, others skilled in the particular art. *Id.*

Despite the importance of claim terms, *Phillips* made clear that “the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Id.* Although the claims themselves may provide guidance as to the meaning of particular terms, those terms are part of “a fully integrated written instrument.” *Id.* at 1315 (quoting *Markman*, 52 F.3d at 978). Thus, the *Phillips* court emphasized the specification as being the primary basis for construing the claims. *Id.* at 1314–17. As the Supreme Court stated long ago, “in case of doubt or ambiguity it is proper in all cases to refer back to the descriptive portions of the specification to aid in solving the doubt or in ascertaining the true intent and meaning of the language employed in the claims.” *Bates v. Coe*, 98 U.S. 31, 38 (1878). In addressing the role of the specification, the *Phillips* court quoted with approval its earlier observations from *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998):

Ultimately, the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim. The construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.

*Phillips*, 415 F.3d at 1316. Consequently, *Phillips* emphasized the important role the specification plays in the claim construction process.

The prosecution history also continues to play an important role in claim interpretation. Like the specification, the prosecution history helps to demonstrate how the inventor and the United States Patent and Trademark Office (“PTO”) understood the patent. *Id.* at 1317. Because the file history, however, “represents an ongoing negotiation between the PTO and the applicant,”

it may lack the clarity of the specification and thus be less useful in claim construction proceedings. *Id.* Nevertheless, the prosecution history is intrinsic evidence that is relevant to the determination of how the inventor understood the invention and whether the inventor limited the invention during prosecution by narrowing the scope of the claims. *Id.*; see *Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1350 (Fed. Cir. 2004) (noting that “a patentee’s statements during prosecution, whether relied on by the examiner or not, are relevant to claim interpretation”).

*Phillips* rejected any claim construction approach that sacrificed the intrinsic record in favor of extrinsic evidence, such as dictionary definitions or expert testimony. The *en banc* court condemned the suggestion made by *Texas Digital Systems, Inc. v. Telegenix, Inc.*, 308 F.3d 1193 (Fed. Cir. 2002), that a court should discern the ordinary meaning of the claim terms (through dictionaries or otherwise) before resorting to the specification for certain limited purposes. *Phillips*, 415 F.3d at 1319–24. According to *Phillips*, reliance on dictionary definitions at the expense of the specification had the effect of “focus[ing] the inquiry on the abstract meaning of words rather than on the meaning of claim terms within the context of the patent.” *Id.* at 1321. *Phillips* emphasized that the patent system is based on the proposition that the claims cover only the invented subject matter. *Id.*

*Phillips* does not preclude all uses of dictionaries in claim construction proceedings. Instead, the court assigned dictionaries a role subordinate to the intrinsic record. In doing so, the court emphasized that claim construction issues are not resolved by any magic formula. The court did not impose any particular sequence of steps for a court to follow when it considers disputed claim language. *Id.* at 1323–25. Rather, *Phillips* held that a court must attach the appropriate weight to the intrinsic sources offered in support of a proposed claim construction, bearing in mind the general rule that the claims measure the scope of the patent grant.

The Supreme Court of the United States has “read [35 U.S.C.] § 112, ¶ 2 to require that a patent’s claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 134 S. Ct. 2120, 2129 (2014). “A determination of claim indefiniteness is a legal conclusion that is drawn from the court’s performance of its duty as the construer of patent claims.” *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1347 (Fed. Cir. 2005) (citations and internal quotation marks omitted), *abrogated on other grounds by Nautilus*, 134 S. Ct. 2120. “Indefiniteness must be proven by clear and convincing evidence.” *Sonix Tech. Co. v. Publ’ns Int’l, Ltd.*, 844 F.3d 1370, 1377 (Fed. Cir. 2017).

In general, prior claim construction proceedings involving the same patents-in-suit are “entitled to reasoned deference under the broad principals of *stare decisis* and the goals articulated by the Supreme Court in *Markman*, even though *stare decisis* may not be applicable *per se*.” *Maurice Mitchell Innovations, LP v. Intel Corp.*, No. 2:04-CV-450, 2006 WL 1751779, at \*4 (E.D. Tex. June 21, 2006) (Davis, J.); *see TQP Development, LLC v. Intuit Inc.*, No. 2:12-CV-180, 2014 WL 2810016, at \*6 (E.D. Tex. June 20, 2014) (Bryson, J.) (“[P]revious claim constructions in cases involving the same patent are entitled to substantial weight, and the Court has determined that it will not depart from those constructions absent a strong reason for doing so.”); *see also Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 839–40 (2015) (“prior cases will sometimes be binding because of issue preclusion and sometimes will serve as persuasive authority”) (citation omitted); *Finisar Corp. v. DirecTV Grp., Inc.*, 523 F.3d 1323, 1329 (Fed. Cir. 2008) (noting “the importance of uniformity in the treatment of a given patent”) (quoting *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 390 (1996)).

### III. AGREED TERMS

In their July 20, 2018 Supplemental Joint Claim Construction and Prehearing Statement (Dkt. No. 66, at 2–3), the parties submitted the following agreed-upon constructions:

<u>Term</u>	<u>Construction</u>
“one” (in the context of “associated with one software application”)  (’288 Patent, Claim 18)	“one, and only one”
“is active”  (’288 Patent, Claim 18)	“has input focus”
“active application program”  (’288 Patent, Claim 18) (’332 Patent, Claims 1, 8, 11)	“application program having input focus”
“position signal representing a location”  (’846 Patent, Claim 1)	“signal comprising coordinates of a location”
“haptic sensation”  (’846 Patent, Claims 1, 19)	“force or tactile sensation”
“cursor”  (’846 Patent, Claim 1) (’720 Patent, Claim 10) (’181 Patent, Claim 1)	“moveable visible mark used to indicate a position of interest on a display device”
“haptic effect”  (’720 Patent, Claim 10) (’181 Patent, Claim 1)	“force or tactile effect”



<p>“second region . . . associated with a control functionality different from cursor positioning”</p> <p>(’181 Patent, Claim 1)</p>	<p>“control area not related to cursor positioning”</p>
<p>“stored haptic effect”</p> <p>(’051 Patent, Claims 1, 6)</p>	<p>“haptic effect pre-defined with low-level haptic parameters, such as voltage levels over time”</p>
<p>“pre-defined haptic effects”</p> <p>(’051 Patent, Claims 1, 3, 9, 13)</p>	<p>“haptic effects pre-defined with low-level haptic parameters such as voltage levels over time”</p>
<p>“the entire haptic output in response to the haptic effect request consists of the first stored haptic effect”</p> <p>(’051 Patent, Claim 1)</p>	<p>“The haptic output in response to the haptic effect request is limited to a single stored haptic effect”</p>
<p>“the entire haptic output in response to the request consists of the requested pre-defined stored haptic effect”</p> <p>(’051 Patent, Claims 8, 12)</p>	<p>“The haptic output in response to the request is limited to a single stored haptic effect”</p>
<p>“receiving a request for one of a plurality of pre-defined stored haptic effects, wherein the request is a control signal in response to a first application that identifies the haptic effect out of the plurality of haptic effects to be played”</p> <p>(’051 Patent, Claims 8, 12)</p>	<p>The parties agree that this phrase is an element of the claim.</p>

#### IV. DISPUTED TERMS

##### A. “outputting a force directly on said touch input device”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
No construction is necessary. If construed, the term should be given its plain and ordinary meaning, within the context of the claim and consistent with the intrinsic evidence, which is “outputting a force on the touch input device either through connected rigid bodies or without intervening structure.”	“outputting a force on the touch input device without intervening structure”

(Dkt. No. 66, Ex. A, at 1; Dkt. No. 76, Ex. A, at 3.) The parties submit that this term appears in Claim 1 of the ’846 Patent. (Dkt. No. 66, Ex. A, at 1; Dkt. No. 76, Ex. A, at 3.)

##### (1) The Parties’ Positions

Plaintiff argues that “the ordinary meaning and the intrinsic and extrinsic evidence all support the conclusion that a force may be imparted ‘directly’ through connected rigid bodies as well as without intervening structure.” (Dkt. No. 72, at 3.) Plaintiff cites the opinion of its expert in this regard. (*Id.*, at 4 (citing Dkt. No. 72-10, Aug. 28, 2018 Howe Decl., at ¶¶ 42–53).) Plaintiff also cites the recital in the claim that the actuator and touch input device are merely “coupled,” and argues that “[t]he claims require only that the actuator *impart or output a force* ‘directly,’ not that the actuator be *coupled* ‘directly’ (that is, physically attached) to the touch input device or touch screen.” (Dkt. No. 72, at 6.) Further, Plaintiff cites disclosures in incorporated-by-reference ancestor United States Patent No. 6,088,019 regarding a “direct-drive” system and in grandchild United States Patent No. 7,548,232 that “the transducer applies (non-inertial) vibrations *directly* to the touchpad (or touchscreen).” (*Id.*, at 7–9.)

Defendants respond that their proposal is consistent with the construction reached by the District of Delaware in *HTC*, and argue that issue preclusion bars Plaintiff from seeking a different

construction. (Dkt. No. 73, at 3–4.) Defendants also argue that the specification demonstrates that the term “directly” means without intervening structures. (*Id.*, at 4.) Further, Defendants argue that prosecution history statements by the patentee, as well as by an examiner, are consistent with Defendants’ proposed construction. (*See id.*, at 5–8.)

Plaintiff replies: “Whether an actuator is directly coupled to an object is a question different from whether an actuator outputs a force directly on that object. ‘Directly coupled to’ requires there be no intervening structure; ‘coupled to’ and ‘outputting a force directly on’ do not.” (Dkt. No. 74, at 1.) Plaintiff also argues that the *HTC* construction “has no preclusive effect because it was an interlocutory order that was not necessary to the final judgment.” (*Id.*)

At the October 9, 2018 hearing, Plaintiff submitted that its proposal of “rigid bodies” allows for intervening materials that transmit vibrations without significant distortion. Plaintiff also argued that the intrinsic evidence contains no disclosure that direct coupling is required for outputting a force directly.

## (2) Analysis

In *HTC*, the District of Delaware construed “outputting a force directly on said touch input device” in the ’846 Patent to mean “outputting a force on the touch input device without intervening structure.” *HTC Memorandum Opinion*, at 10; *see id.* at 11–12; *see also HTC Order*, at 1. Defendants in the present case have proposed the *HTC* construction.

Based on this construction (together with the *HTC* construction of “touch input device”), the District of Delaware granted summary judgment of no literal infringement:

Defendants argue that the accused products do not infringe the asserted claims of the ’846 and ’105 patents because the actuators do not impart forces “directly” on the touch screen. (D.I. 246 at p. 5). The asserted claim of the ’105 patent requires an actuator configured to “impart a force directly to the touch screen.” (*Id.*). The Court construed that term to mean “impart a force on the touch screen without intervening structure.” (D.I. 332 at 11). The asserted claims of the ’846 patent all

require an actuator “outputting a force directly on said touch input device.” (D.I. 246 at p. 5). The Court construed that term to mean “outputting a force on the touch screen without intervening structure.” (D.I. 332 at 10).

The Court’s constructions of the touch screen terms are also central to the infringement issue. The Court construed “touch input device” to mean “device that allows a user to provide input by touching an area on the device, and may include a touch surface, a display, and a touch sensor.” (*Id.* at 4). The Court construed “touch screen” to mean “a display device that allows a user to provide input by touching an area on the device, and may include a touch surface, a display, and a touch sensor.” (*Id.* at 5).

Defendants argue that the accused devices do not literally infringe because there is always an intervening structure between the device and the actuator, namely the “chassis” or “bezel.” [fn: The “chassis” or “bezel” is a rigid body that binds some or all of the other layers of the device together. (D.I. 273 at p. 10; D.I. 246 at p. 7).] (D.I. 246 at p. 7). Plaintiff’s argument rests on constructions that the Court did not adopt. Plaintiff argues that the bezel is part of the touch screen, so an actuator attached to the bezel is directly attached to the touch screen. (D.I. 273 at p. 9). This argument is unavailing because the bezel is not part of the touch screen under the Court’s construction. Alternately, Plaintiff argues that “directly” can mean “through connected rigid bodies,” and because the bezel is rigid, the force is imparted “directly.” (*Id.* at p. 13). However, the Court did not adopt that construction. (*See* D.I. 332 at 10–11). Plaintiff did not present any argument that the accused devices literally infringe under Defendants’ construction of the terms.

Under the Court’s construction of the terms discussed above, none of the devices literally infringe because there is always a bezel between the actuator and the touch screen. The Court therefore grants summary judgment to Defendants with respect to literal infringement of the ’846 and ’105 patents.

*HTC*, Dkt. No. 333, 2015 WL 627425, slip op. at 9–11 (D. Del. Feb. 11, 2015). The District of Delaware denied summary judgment as to the doctrine of equivalents. *Id.* at 11.

Elsewhere in this Memorandum Opinion, the court also granted summary judgment of invalidity as to other patents there in suit, finding that certain purported continuation applications were not filed before the issuance of the ’846 Patent and therefore were not entitled to the priority date of the ’846 Patent. *See id.* at 4–8; *see also id.* at 7 (“Plaintiff has presented no evidence showing that the [purported continuation] applications were filed before the parent patent issued.”).

The parties entered into a Stipulation for Entry of Judgment (*HTC*, Dkt. No. 385 (Mar. 30, 2015)) based on a settlement as to the '846 Patent and another patent and based on the court's grant of summary judgment of invalidity as to other patents there in suit, and the court entered a Final Judgment (*HTC*, Dkt. No. 386 (Mar. 31, 2015)). Plaintiff appealed the invalidity finding, and the Court of Appeals for the Federal Circuit reversed as to the priority date issue. *See Immersion Corp. v. HTC Corp.*, 826 F.3d 1357 (Fed. Cir. 2016). In particular, the Federal Circuit found that "same-day continuations" are permissible. *See id.* at 1364. Upon remand, the parties filed a Joint Motion for Dismissal. *HTC*, Dkt. No. 391 (Aug. 26, 2016). The court then entered an Order Granting Joint Motion to Dismiss. *HTC*, Dkt. No. 392 (Aug. 29, 2016).

Collateral estoppel applies if (1) the issue sought to be precluded from relitigation is identical to the issue decided in the earlier proceeding; (2) the issue was actually litigated in the former proceeding; (3) the determination on the issue in the prior action was necessary to the resulting judgment in that case; and (4) the person against whom collateral estoppel is asserted had a full and fair opportunity to litigate the issue in the prior action. *Mayer/Berkshire Corp. v. Berkshire Fashions, Inc.*, 424 F.3d 1229, 1232 (Fed. Cir. 2005); *Dana v. E.S. Originals, Inc.*, 342 F.3d 1320, 1323 (Fed. Cir. 2003); *Hicks v. Quaker Oats Co.*, 662 F.2d 1158, 1166 (5th Cir. 1981); *see Montana v. United States*, 440 U.S. 147, 153, 99 S. Ct. 970, 59 L. Ed. 2d 210 (1979) ("Under collateral estoppel, once an issue is actually and necessarily determined by a court of competent jurisdiction, that determination is conclusive in subsequent suits based on a different cause of action involving a party to the prior litigation.

*DietGoal Innovations LLC v. Chipotle Mexican Grill, Inc.*, 70 F. Supp. 3d 808, 811–12 (E.D. Tex. 2014) (Bryson, J., sitting by designation).

In *HTC*, neither the Final Judgment, the Federal Circuit decision on appeal nor the Order Granting Joint Motion to Dismiss relied on any relevant claim construction. *See HTC*, Dkt. Nos. 386 & 392; *see also HTC*, Dkt. No. 385, Mar. 30, 2015 Stipulation for Entry of Judgment, at 2. Thus, the *HTC* claim construction here at issue was not necessary to the judgment. Based on the particular circumstances of *HTC* and the present case, the authority cited by Defendants is

distinguishable. *See Aspex Eyewear, Inc. v. Zenzi Optical Inc.*, 713 F.3d 1377, 1379–80, 1382 (Fed. Cir. 2013) (applying collateral estoppel as to prior construction of term that resulted in grant of summary judgment of non-infringement). On balance, Defendants have failed to demonstrate that any relevant issue preclusion or estoppel arises from *HTC*.

Nonetheless, the *HTC* analysis and construction can be considered for persuasive value.

*HTC* found:

The Court agrees with Defendants that, in order for the actuator to impart forces directly, there must be *no intervening structure* between the touch screen and the actuator. Though Plaintiff repeatedly states that “directly” has a unique meaning in the field of haptics, it offers no supporting evidence. The Court finds that the specification language and prosecution history identified by Plaintiff both support construing “directly” to require *no intervening structure*.

*HTC Memorandum Opinion*, at 12 (emphasis added).

In the present case, Plaintiff submits the opinion of its expert that the ordinary meaning of “outputting a force directly” is outputting or imparting a force without intervening structure or through connected rigid bodies without significant compliance. (Dkt. No. 72-10, Aug. 28, 2018 Howe Decl., at ¶¶ 42, 45, 46, 48 (“without significant intervening compliant structure”) & 58.)

Claim 1 of the ’846 Patent recites (emphasis added):<sup>1</sup>

1. A haptic feedback touch control for inputting signals to a portable computer and for outputting forces to a user of the touch control, the touch control comprising:  
a touch input device integrated in a housing of said portable computer, said touch input device including an approximately planar touch surface operative to input a position signal to a processor of said computer based on a location on said touch surface which said user contacts, said position signal representing a location in two dimensions, wherein said computer positions a cursor in a graphical environment displayed on a display device based at least in part on said position signal; and  
at least one actuator *coupled* to said touch input device, said actuator outputting a force on said touch input device to provide a haptic sensation to said

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<sup>1</sup> This reproduction of Claim 1 of the ’846 Patent includes the changes set forth in the July 31, 2012 Certificate of Correction, which Plaintiff has implemented in the listing of claims attached to Plaintiff’s opening claim construction brief (Dkt. No. 72) as Exhibit B.

user contacting said touch surface, wherein said actuator outputs said force based on force information output by said processor, said actuator *outputting a force directly on said touch input device*.

In general, “[a] claim construction that gives meaning to all the terms of the claim is preferred over one that does not do so.” *Merck & Co., Inc. v. Teva Pharm. USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir. 2005). Plaintiff has emphasized that the claim recites that an actuator is merely “coupled,” not “directly coupled.” Plaintiff concludes that the actuator may be coupled to the touch input device through intervening structures. Even if this is assumed, the disputed term also explicitly requires that the actuator outputs force directly on the touch input device. This explicit limitation must be satisfied regardless of how the actuator may be “coupled.” Any breadth that may exist in the “coupled” limitation does not vitiate the separate limitation that the actuator must output force directly on the touch input device.

Plaintiff has failed to demonstrate that the word “directly” refers to anything other than what the *HTC* court found, namely that “in order for the actuator to impart forces directly, there must be no intervening structure between the touch screen and the actuator.” *HTC Memorandum Opinion*, at 12. For example, Plaintiff’s reliance upon usage of “directly” in the field of robotics is unpersuasive. (See Dkt. No. 72, Ex. 13, H. Kazerooni, *Statically balanced direct drive manipulator*, 7 ROBOTICA 143–49, 143 (1989) (“actuators were directly coupled to links without any transmission mechanism”). Here, as in *HTC*, Plaintiff has not shown that the word “directly” has a special meaning in the field of haptics. See *HTC Memorandum Opinion*, at 12.

Moreover, Defendants have submitted persuasive evidence that “directly” refers to the absence of intervening structures. This understanding is consistent with how the specification illustrates and describes the relevant structures, such as with reference to Figure 4 of the ’846 Patent:

Touchpad 16 is *directly* coupled to a grounded piezoelectric actuator 42 which operates to produce a force on the touchpad 16 when an electrical signal is input to the actuator. Typically, a piezo-electric actuator includes two layers which can move relative to each other when a current is applied to the actuator; here, the grounded portion of the actuator remains stationary with respect to the surrounding housing 41 while the moving portion of the actuator and the touchpad move with respect to the housing 41.

\* \* \*

Since the touchpad 16 is *directly* coupled to the actuator 42, any produced forces are *directly* applied to the touchpad 16.

'846 Patent at 8:23–33 & 8:45–47 (emphasis added). Figure 4 is reproduced here:

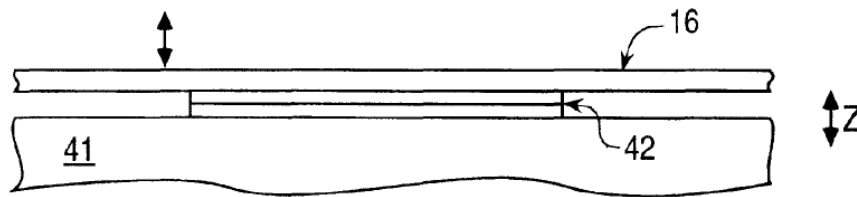


FIG. 4

The specification also uses the word “directly” in another context that is consistent with understanding “directly” as referring to an absence of intervening structures:

Besides using a finger to contact the touchpad, the user may also hold other objects that *directly* contact the touchpad. Any haptic sensations output on the pad can be transmitted through the held object to the user’s hand. For example, the user can hold a stylus having a point that contacts the touchpad 16 more precisely than a finger.

*Id.* at 7:66–8:4 (emphasis added). In this disclosure, the stylus (rather than the user’s hand) “directly contact[s] the touchpad.” *Id.* In other words, the intervening structure between the user’s hand and the touchpad is what “directly” contacts the touchpad. *See id.*

These disclosures are consistent with the *HTC* construction, and Plaintiff has not shown that the specification discloses any other type of arrangement for “directly” imparting force, such as an embodiment with intervening structures. On one hand, “it is improper to read limitations



from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited.” *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004). On the other hand, “[i]n some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.” *See Phillips*, 415 F.3d at 1314.

The absence of any disclosure of intervening structures is unsurprising given the common meaning of “directly.” The extrinsic dictionary definitions submitted by Defendants are consistent with this understanding. (*See* Dkt. No. 73, Ex. 4, *The American Heritage Dictionary of the English Language* 527 (3d ed. 1996) (defining “directly” as “without anyone or anything intervening”); *id.*, Ex. 5, *Merriam-Webster’s Collegiate Dictionary* 328 (10th ed. 1997) (defining “directly” as “in immediate physical contact”; defining “direct” as “marked by absence of an intervening agency, instrumentality, or influence”).)

Plaintiff has cited the usage of “directly” in the incorporated-by-reference United States Patent No. 6,088,019 (“the ’019 Patent”), which Plaintiff has attached to its opening claim construction brief (Dkt. No. 72) as Exhibit 2. *See* ’846 Patent at 5:62–63 (incorporating-by-reference United States Patent Application Serial No. 09/103,281, which issued as the ’019 Patent). For example, the ’019 Patent discloses: “In preferred embodiments, the actuator outputs the force *directly* on the user manipulatable object, such that no transmission system is required to be provided between the actuator and the user manipulatable object, thus greatly reducing the cost of the device.” ’019 Patent at 2:37–41 (emphasis added); *see id.* at 3:46–50 (similar); *see also id.* at 9:35–42 (“Furthermore, in the preferred embodiments, actuator 30 is provided in a *direct-drive*

system, i.e. a system in which the actuator outputs forces *directly* to the user manipulatable object, where no transmission system need be employed between actuator and user object. This further reduces the cost of the force feedback device since no complex transmission system need be manufactured and assembled in the device.”) (emphasis added).

Plaintiff has not shown how these disclosures compel a broad interpretation of “directly.” Instead, these disclosures simply highlight that applying force directly can reduce cost by avoiding the need for a transmission system.

Plaintiff has also cited disclosure of a “mouse” embodiment in which an actuator applies force to a computer mouse cover. *See* ’019 Patent at 13:31–14:55. This disclosure refers to an actuator as “rigidly coupled” through a “member.” *Id.* at 14:26–30. Plaintiff submits that this embodiment corresponds to dependent Claim 16 of the ’019 Patent, which recites that the “actuator outputs said force *directly* on said mouse housing, wherein no transmission system is provided between said actuator and said mouse housing.” Yet, whereas “directly” appears in this claim, “directly” does not appear in the mouse embodiment disclosure in the specification cited by Plaintiff. *See id.* at 13:31–14:55. Plaintiff has thus failed to demonstrate that the ’019 Patent equates “directly” with “rigidly” or otherwise compels a broad interpretation of “directly.”

Plaintiff has also cited a “grandchild” patent, United States Patent No. 7,548,232 (“the ’232 Patent”). The ’232 Patent is a continuation of a continuation-in-part of the ’846 Patent and is attached to Plaintiff’s opening brief (Dkt. No. 72) as Exhibit 3. The ’232 Patent discloses: “FIG. 8b is a side elevational view of another embodiment 234 of a piezoelectric transducer providing haptic feedback, where the transducer applies (non-inertial) vibrations *directly* to the touchpad (or touchscreen) along the z-axis (also see parent application Ser. No. 09/487,737).” ’232 Patent at 18:15–19 (emphasis added). Figure 8B of the ’232 Patent illustrates that vibrations from the piezo

metal diaphragm 231 (part of the transducer) are applied to the touchpad member 238 through spacer 240. *See id.* at 18:24–29. Figure 8B of the '232 Patent is reproduced here:

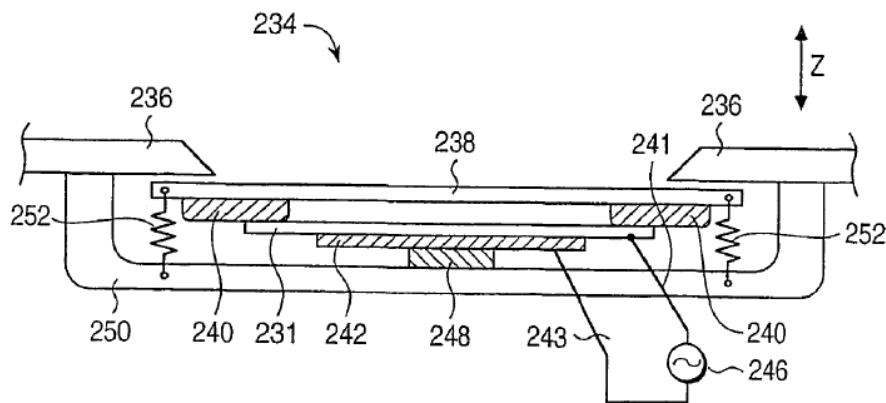


FIG. 8B

Yet, this disclosure in the grandchild '232 Patent does not appear in the '846 Patent, and Plaintiff has not shown that the disclosure in the '232 Patent is anything other than extrinsic evidence as to the '846 Patent. Also of note, the '232 Patent discloses an alternative embodiment in which the ceramic element of the transducer “directly impacts the touchpad element.” *See* '232 Patent at 19:34–43. In light of this, and particularly given the other evidence discussed in this Claim Construction Memorandum and Order, the '232 Patent disclosures cited by Plaintiff do not warrant a broad interpretation of “directly” as to the earlier '846 Patent.

The *HTC* construction is also consistent with the prosecution history of a different “grandchild” patent, United States Patent No. 7,592,999 (a continuation of a continuation-in-part of the '846 Patent) regarding the “Fujita” reference, United States Patent No. 6,118,435. The examiner found that the “Fujita” reference, alone, did not teach an actuator configured to impart force “directly” on a touch screen, as recited in the claims at issue. (Dkt. No. 73, Ex. 6, Oct. 31, 2007 Office Action, at 2–3; *see id.*, Ex. 7, May 2, 2008 Office Action at 2–4; *see also id.*, Ex. 8, Nov. 24, 2008 Office Action at 3–5.) The Fujita reference disclosed a “touch-panel support plate”

positioned between the “driving portion” and the “touch panel.” (Dkt. No. 73, Ex. 9, Fujita at 4:1–11 & Fig. 1; *see id.*, Ex. 3, *HTC*, Oct. 10, 2014 Joint Claim Construction Brief, at 49 & n.29.) Plaintiff here has argued that the patentee distinguished Fujita based on Fujita’s use of a non-rigid intervening structure (in the patentee’s words, “contact switches (6) that require sufficient pressure to overcome a spring bias in order to close them”) rather than only rigid structures. (Dkt. No. 74, at 3 (citing Dkt. No. 73, Ex. 10, Aug. 1, 2008 Amendment and/or Response to Office Action, at 4).) On balance, however, the examiner’s apparent understanding of “directly” weighs at least somewhat against Plaintiff’s proposal of allowing intervening structures. *See, e.g., Salazar v. Procter & Gamble Co.*, 414 F.3d 1342, 1347 (Fed. Cir. 2005) (“Statements about a claim term made by an Examiner during prosecution of an application may be evidence of how one of skill in the art understood the term at the time the application was filed.”).

The patentee expressed a similar understanding of “directly” (in the context of the phrase “directly coupled”) during prosecution of another “grandchild” patent, United States Patent No. 7,728,820 (a continuation of a continuation of the ’846 Patent), in which the patentee distinguished the same Fujita reference as follows: “[D]riving portion 5 and touch panel 3 are separated by a press detection switch 6 and touch panel support 4 in Fujita et al. The contention in the Office Action that, under a ‘broadest reasonable manner’ interpretation, such separation in Fujita et al. can simply be ignored stretches the broadest reasonable manner interpretation mandate beyond acceptable limits. In other words, ignoring the separation of driving portion 5 and touch panel 3 by press detection switch 6 and touch panel support 4 is not a reasonable interpretation of direct coupling.” (Dkt. No. 73, Ex. 12, Aug. 13, 2008 Amendment, at 4; *see id.* (“The Examiner’s interpretation by these standards [set forth in the Manual of Patent Examining Procedure] is unreasonable because it completely ignores the term ‘directly,’ which is not shown Fujita et al.

[sic].”).) Here again, although the patentee’s remarks do not appear to rise to the level of a definition or disclaimer, it is noteworthy that the patentee’s remarks are consistent with the *HTC* construction.

Finally, the opinions of Defendants’ expert provide additional support for adopting the *HTC* construction. (See Dkt. No. 73, Ex. 1, Sept. 11, 2018 Wolfe Decl. at ¶¶ 18–31.) The contrary opinions of Plaintiff’s expert are unpersuasive. (See Dkt. No. 72-10, Aug. 28, 2018 Howe Decl., at ¶¶ 42–59; *see also* Dkt. No. 74-1, Sept. 18, 2018 Howe Suppl. Decl., at ¶¶ 6–13.) For example, even if related structures such as mounting clips (*see* Dkt. No. 72-10, Aug. 28, 2018 Howe Decl., at ¶ 46) may be present in a practical embodiment, Plaintiff has not shown that it is impossible or infeasible for an actuator to apply force to a touch input device without any intervening structures.<sup>2</sup>

Based on all of the foregoing, the Court hereby construes **“outputting a force directly on said touch input device”** to mean **“outputting a force on the touch input device without intervening structure.”**

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<sup>2</sup> Plaintiff has also cited deposition testimony of one of the named inventors. (See Dkt. No. 72, Ex. 1, Oct. 4, 2012 Rosenberg dep. at 113:2–117:12.) Such testimony has minimal, if any, relevance in these claim construction proceedings. *See Howmedica Osteonics Corp. v. Wright Med. Tech., Inc.*, 540 F.3d 1337, 1346–47 (Fed. Cir. 2008) (noting that inventor testimony is “limited by the fact that an inventor understands the invention but may not understand the claims, which are typically drafted by the attorney prosecuting the patent application”). Further, to whatever extent this testimony may be relevant, the opinions of the named inventor regarding glue and other fastening mechanisms may bear upon factual issues regarding infringement but do not present any legal question for claim construction.

**B. “touch input device”**

<b>Plaintiff’s Proposed Construction</b>	<b>Defendants’ Proposed Construction</b>
No construction is necessary. If construed, the term should be given its plain and ordinary meaning, within the context of the claim and consistent with the intrinsic evidence, which is a “device that allows a user to provide input by touching an area on the device.” A touch input device may include a touch surface, a touch sensor, a local microprocessor, and a display.	“device that allows a user to provide input by touching an area on the device, and may include a touch surface, a display, and a touch sensor but not the bezel, chassis or controller”

(Dkt. No. 66, Ex. A, at 1; Dkt. No. 76, Ex. A, at 2 & 4–5.) The parties submit that this term appears in Claims 1, 7, 16, and 19 of the ’846 Patent. (Dkt. No. 66, Ex. A, at 1; Dkt. No. 76, Ex. A, at 2 & 4–5.)

(1) The Parties’ Positions

Plaintiff argues that “[n]othing in the claim language or specification supports limiting the scope of a touch input device as argued by Samsung.” (Dkt. No. 72, at 10.) More specifically, Plaintiff argues that the ’846 Patent contains no lexicography or disavowal that would support Defendants’ proposed negative limitation. (*Id.*, at 11.) Plaintiff cites disclosures in the ’846 Patent as well as in the incorporated-by-reference United States Patent No. 5,734,373 and the incorporated-by-reference ’019 Patent. (*Id.*, at 12–13.)

Defendants respond that their proposal is consistent with the *HTC* construction, and that issue preclusion bars Plaintiff from seeking a different construction here. (Dkt. No. 73, at 14.) Defendants also argue that “the ’846 patent specification repeatedly describes the ‘touch input device’ as a component separate and distinct from the bezel or chassis.” (*Id.*, at 15.) Further, Defendants argue that “Immersion also seeks to recapture embodiments and scope that it distinguished during prosecution.” (*Id.*, at 19.)

Plaintiff replies that the *HTC* construction “has no preclusive effect because it was an interlocutory order not necessary to the final judgment in that case.” (Dkt. No. 74, at 5.) Plaintiff also submits that Defendants’ proposed construction differs substantially from the actual *HTC* construction. (*Id.*) Plaintiff explains that it would accept the *HTC* construction, which construed “touch input device” to mean “a device that allows a user to provide input by touching an area on the device, and may include a touch surface, a display, and a touch sensor.” (*Id.* (quoting *HTC Order*, at 1).)

At the October 9, 2018 hearing, Defendants emphasized that the specification does not disclose a touch input device having a housing and, instead, the specification repeatedly refers to a housing that is separate from the touch input device.

## (2) Analysis

In *HTC*, the District of Delaware construed “touch input device” in the ’846 Patent to mean “a device that allows a user to provide input by touching an area on the device, and may include a touch surface, a display, and a touch sensor.” *HTC Order*, at 1; *see HTC Memorandum Opinion*, at 4. The *HTC* analysis was as follows:

*Plaintiff’s proposed construction:* No construction is necessary. If construed, the term should be given its plain and ordinary meaning, within the context of the claim and consistent with the intrinsic evidence, which is a “device that allows a user to provide input by touching an area on the device.” A touch input device may include a touch surface, a display, a touch sensor, and a controller.

*Defendants’ proposed construction:* the touch surface and the touch sensor

\* \* \*

The Court finds that the proper construction lies between the parties’ proposed constructions. The Court agrees that the display is part of the touch screen/touch input device and therefore finds that Defendants’ construction is too narrow. The specification discloses that the touch screen must be “operative to display a graphical image,” and it therefore must include a display. However, the Court also finds that Plaintiffs construction is too broad. The Court does not find that the bezel

and controller are components of the touch screen/touch input device. While it is true that the bezel is necessary to bind the touch screen to the other components of the device, it does not follow that the bezel is part of the touch screen. Presumably, all components of the device play some part in making it function. That does not mean that they are all part of the touch screen, which is but one part of the device. The controller, or printed circuit board, is separated from the display by the bezel (D.I. 273 at p. 10), and is therefore similarly not part of the touch screen.

*HTC Memorandum Opinion*, at 4–6.

For the same reasons set forth above as to the term “outputting a force directly on said touch input device,” issue preclusion does not apply to the *HTC* construction of “touch input device.” However, the *HTC* analysis can be considered for persuasive value.

The only dispute then is whether the term “touch input device” excludes any “bezel” or “chassis” (both of which appear to align with the parties’ arguments herein as to “housing”) as well as any “controller.”

Claim 1 of the ’846 Patent, for example, recites (emphasis added):<sup>3</sup>

1. A haptic feedback touch control for inputting signals to a portable computer and for outputting forces to a user of the touch control, the touch control comprising:

a *touch input device* integrated in a housing of said portable computer, said *touch input device* including an approximately planar touch surface operative to input a position signal to a processor of said computer based on a location on said touch surface which said user contacts, said position signal representing a location in two dimensions, wherein said computer positions a cursor in a graphical environment displayed on a display device based at least in part on said position signal; and

at least one actuator coupled to said *touch input device*, said actuator outputting a force on said *touch input device* to provide a haptic sensation to said user contacting said touch surface, wherein said actuator outputs said force based on force information output by said processor, said actuator outputting a force directly on said *touch input device*.

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<sup>3</sup> This reproduction of Claim 1 of the ’846 Patent includes the changes set forth in the July 31, 2012 Certificate of Correction, which Plaintiff has implemented in the listing of claims attached to Plaintiff’s opening claim construction brief as Exhibit B.



By reciting “a touch input device integrated in a housing of said portable computer,” the claim implies that the touch input device is within this housing rather than the housing being within the touch input device. *See Becton, Dickinson & Co. v. Tyco Healthcare Grp., LP*, 616 F.3d 1249, 1254 (Fed. Cir. 2010) (“[w]here a claim lists elements separately, the clear implication of the claim language is that those elements are distinct component[s] of the patented invention”) (citations and internal quotation marks omitted). Put differently, the recited housing is not part of the touch input device. Even if the touch input device is separate from “a housing of said portable computer,” Defendants have not shown how this necessarily precludes the touch input device from having its own housing, “chassis,” or “bezel.”

Turning to the specification, Defendants have cited disclosures that “[t]he touch input device can be integrated in a housing of the computer or handheld device, or provided in a housing that is separate from the computer.” ’846 Patent at 2:22–25; *see id.* at 3:64–4:2; *see also id.* at 16:45–48 & Fig. 8B (illustrating “touch screen 82” and “housing 88”). The specification also refers to applying different haptics to each of the touch input device and the housing. *Id.* at 5:66–6:4 (“This allows the host to control two different tactile sensations simultaneously to the user; for example, a vibration of a low frequency can be conveyed through the housing to the user and a higher frequency vibration can be conveyed to the user through the touchpad 16.”).

Although these disclosures suggest that a “touch input device” is distinct from particular housings, nothing in these disclosures precludes a touch input device from having a housing of its own. This reasoning also extends to Defendants’ proposal of excluding “bezels,” which are not mentioned at all in the claims or the specification. The term “bezels” appears to have been used in the *HTC* proceedings as a description of accused products rather than based on any intrinsic evidence. *See HTC Memorandum*, at 5–6; *see also HTC*, Dkt. No. 333, 2015 WL 627425, slip op.

at 10 (D. Del. Feb. 11, 2015). No definition or disclaimer is apparent that would warrant imposing a negative limitation as to a chassis, bezel, or housing.

As to Defendants' proposal of excluding "controllers," the specification discloses:

The touchpad 16 can include circuitry necessary to report control signals to the microprocessor of the host computer 10 and to process command signals from the host's microprocessor. For example, appropriate sensors (and related circuitry) are used to report the position of the user's finger on the touchpad 16. The touchpad device also includes circuitry that receives signals from the host and outputs tactile sensations in accordance with the host signals using one or more actuators. *In some embodiments, a separate, local microprocessor can be provided for the touchpad 16 to both report touchpad sensor data to the host and/or to carry out force commands received from the host, such commands including, for example, the type of haptic sensation and parameters describing the commanded haptic sensation.*

'846 Patent at 6:24–37 (emphasis added); *see, e.g., id.* at 6:38 ("touchpad microprocessor"); *id.* at 4:10–12, 4:39–42 & 15:34–39 ("The local touchpad microprocessor, if present, may alternatively interpret the function associated with the user contact location and report appropriate signal or data to the host processor (such as position coordinates or a button signal), thus keeping the host processor ignorant of the lower level processing."). The specification thus discloses that a touch input device may include its own processor.

This reading of the specification is consistent with the recital in above-reproduced Claim 1 of the '846 Patent that the touch input device is "operative to input a position signal to a processor of said computer based on a location on said touch surface which said user contacts, said position signal representing a location in two dimensions," particularly in light of the parties' agreement that "position signal representing a location in two dimensions" means "signal comprising coordinates of a location." (Dkt. No. 66, at 2.) The opinions of Defendants' expert, including that such a processor would merely be "intermediate" and not part of the touch input device, are unpersuasive. (*See* Dkt. No. 73, Ex. 1, Sept. 11, 2018 Wolfe Decl., at ¶¶ 43–44.)

The extrinsic technical dictionary definitions submitted by Plaintiff are consistent with this understanding, and the extrinsic technical dictionary definitions submitted by Defendants do not compel otherwise. (See Dkt. No. 72, Ex. 12, *The Illustrated Dictionary of Microcomputers* 400 (3d ed. 1990) (“A video screen constructed to sense when one is touching it, and to be able to furnish a computer with precise information as to exactly where on the screen the touch occurred.”); see also *id.*, Exs. 10–11; Dkt. No. 73, Ex. 13, *Microsoft Press Computer Dictionary* 472 (3d ed. 1997) (defining “touch pad” as “A variety of graphics tablet that uses pressure sensors, rather than electromagnetics used in more expensive high-resolution tablets, to track the position of a device on its surface.”); *id.*, Ex. 14, *The IEEE Standard Dictionary of Electrical and Electronics Terms* 1123 (6th ed. 1997) (defining a “touch panel” as “A touch-sensitive input device that allows users to interact with a computer system by touching an area on the panel”; defining “touch screen” as “A display screen equipped with a touch panel in front of it such that users may interact with a computer system by touching an area on the panel”).)

The opinions of Plaintiff’s expert provide additional support for finding that neither the intrinsic evidence nor the understanding of a person of ordinary skill in the art prohibits a “touch input device” from having its own housing, bezel, or controller. (See Dkt. No. 72-10, Aug. 28, 2018 Howe Decl., at ¶¶ 15–34; see also Dkt. No. 74-1, Sept. 18, 2018 Howe Suppl. Decl., at ¶¶ 14–15.) The contrary opinions of Defendants’ expert are unpersuasive. (See Dkt. No. 73, Ex. 1, Sept. 11, 2018 Wolfe Decl., at ¶¶ 32–52.)

The remaining dispute is whether the patentee disclaimed claim scope during reexamination of the ’720 Patent, which is one of the patents-in-suit and a “great-grandchild” of the ’846 Patent, having resulted from a continuation of a continuation of a continuation of the ’846 Patent. Defendants have not shown that any disclaimer as to the ’720 Patent would be applicable

to the “great-grandparent” ’846 Patent. The Court analyzed an analogous dispute in *Oyster Optics, LLC v. Coriant America Inc., et al.*, No. 2:16-CV-1302 (E.D. Tex. Mar. 2, 2018), in which the Court found that “[a] disclaimer specific to a single patent may be carried *forward*, but this Court is aware of no authority which permits a disclaimer to be imputed from *progeny to ancestor* when it is not, as *Microsoft* requires, ‘a representation of [the patentee’s] own understanding of the inventions disclosed in all [related] patents.’” *Id.*, at 7 (quoting *Microsoft*, 357 F.3d at 1350). The Court reaches the same conclusion here for substantially the same reasons. *See id.* Indeed, the reexamination statements cited by Defendants relate to specific language recited in the claims of the ’720 Patent. (*See* Dkt. No. 73, Ex. 16, June 3, 2013 Amendment in Response to Office Action Dated April 2, 2013, at 7 & 17.) The Court therefore addresses this reexamination prosecution history only as to the separate disputed term “touch screen,” which appears in claims of the ’720 Patent and which is addressed separately below.<sup>4</sup>

Finally, as to the portion of the *HTC* construction that “touch input device” “may include a touch surface, a display, and a touch sensor,” the analysis in *HTC* addressed a dispute between the parties there in that regard. *See HTC Memorandum Opinion*, at 5–6. In particular, in *HTC* the court “agree[d] that the display is part of the touch screen/touch input device and therefore f[ound] that Defendants’ construction is too narrow.” *Id.*, at 6. The parties in the present case have not presented any such dispute, so this language is unnecessary in the construction in the present case. Omitting this language will also avoid any risk that the “may include” list might be interpreted as exclusive.

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<sup>4</sup> Alternatively, as discussed below regarding the term “touch screen,” Defendants have failed to demonstrate any relevant disclaimer.

The Court therefore hereby construes **“touch input device”** to mean **“a device that allows a user to provide input by touching an area on the device.”**

**C. “approximately planar touch surface”**

<b>Plaintiff’s Proposed Construction</b>	<b>Defendants’ Proposed Construction</b>
No construction is necessary. The term has the meaning that its constituent words impart to it.	Indefinite

(Dkt. No. 66, Ex. A, at 1; Dkt. No. 76, Ex. A, at 2.) The parties submit that this term appears in Claim 1 of the ’846 Patent. (Dkt. No. 66, Ex. A, at 1; Dkt. No. 76, Ex. A, at 2.)

(1) The Parties’ Positions

Plaintiff argues that words of degree, such as “approximately,” are not necessarily indefinite, as explained in several instances by the Court of Appeals for the Federal Circuit. (Dkt. No. 72, at 16.) Plaintiff submits that “[t]he ’846 patent claims similarly use the phrase ‘approximately planar’ to account for minor variations,” and “[t]he ’846 specification describes several embodiments that illustrate an ‘approximately,’ but not ‘exactly,’ planar touch surface.” (*Id.*, at 17.)

Defendants respond that “the term ‘approximately planar’ is a term of degree and nothing in the record provides any indication of how non-planar a touch surface can be while still being ‘approximately planar.’” (Dkt. No. 73, at 23 (citation omitted).)

Plaintiff replies that “[c]laims involving terms of degree or approximation of shape or orientation, such as ‘approximately planar,’ have been routinely upheld as definite both pre- and post-*Nautilus*.” (Dkt. No. 74, at 8.) Plaintiff also submits that “the law does not require absolute precision,” and “‘approximately’ and ‘planar’ are common terms that one of ordinary skill can readily apply, particularly in light of the examples provided in the specification.” (*Id.*, at 9.)

Further, Plaintiff argues that Defendants ignore the extrinsic evidence cited by Plaintiff's expert that "describ[es] the limitations of manufacturing processes for touch screens." (*Id.*)

At the October 9, 2018 hearing, Defendants reiterated that the intrinsic record fails to provide adequate guidance as to the degree of approximation that is permitted by "approximately planar." Defendants highlighted, for example, *Berkheimer v. HP Inc.*, in which the Federal Circuit found indefiniteness as to the term "minimal redundancy," noting that "[t]he specification contains no point of comparison for skilled artisans to determine an objective boundary of 'minimal' when the archive includes *some* redundancies." 881 F.3d 1360, 1364 (Fed. Cir. 2018)

## (2) Analysis

"The claims, when read in light of the specification and the prosecution history, must provide objective boundaries for those of skill in the art." *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371 (Fed. Cir. 2014). "[A] term of degree fails to provide sufficient notice of its scope if it depends on the unpredictable vagaries of any one person's opinion." *Id.* (citation and internal quotation marks omitted). Nonetheless, the Federal Circuit has "rejected the proposition that claims involving terms of degree are inherently indefinite." *Sonix*, 844 F.3d at 1377. "Claim language employing terms of degree has long been found definite where it provided enough certainty to one of skill in the art when read in the context of the invention." *Interval Licensing*, 766 F.3d at 1370.

Claim 1 of the '846 Patent recites (emphasis added):<sup>5</sup>

1. A haptic feedback touch control for inputting signals to a portable computer and for outputting forces to a user of the touch control, the touch control comprising:  
a touch input device integrated in a housing of said portable computer, said touch input device including an *approximately planar touch surface* operative to

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<sup>5</sup> This reproduction of Claim 1 of the '846 Patent includes the changes set forth in the July 31, 2012 Certificate of Correction, which Plaintiff has implemented in the listing of claims attached to Plaintiff's opening claim construction brief as Exhibit B.

input a position signal to a processor of said computer based on a location on said touch surface which said user contacts, said position signal representing a location in two dimensions, wherein said computer positions a cursor in a graphical environment displayed on a display device based at least in part on said position signal; and

at least one actuator coupled to said touch input device, said actuator outputting a force on said touch input device to provide a haptic sensation to said user contacting said touch surface, wherein said actuator outputs said force based on force information output by said processor, said actuator outputting a force directly on said touch input device.

This usage of “approximately” is readily understandable and comports with Federal Circuit decisions regarding similar claim language:

Expressions such as “substantially” are used in patent documents when warranted by the nature of the invention, in order to accommodate the minor variations that may be appropriate to secure the invention. Such usage may well satisfy the charge to “particularly point out and distinctly claim” the invention, 35 U.S.C. § 112, and indeed may be necessary in order to provide the inventor with the benefit of his invention. \* \* \*

It is well established that when the term “substantially” serves reasonably to describe the subject matter so that its scope would be understood by persons in the field of the invention, and to distinguish the claimed subject matter from the prior art, it is not indefinite. Understanding of this scope may be derived from extrinsic evidence without rendering the claim invalid.

*Verve, LLC v. Crane Cams, Inc.*, 311 F.3d 1116, 1120 (Fed. Cir. 2002).

When a word of degree is used the district court must determine whether the patent’s specification provides some standard for measuring that degree. The trial court must decide, that is, whether one of ordinary skill in the art would understand what is claimed when the claim is read in light of the specification.

*Seattle Box Co. v. Industrial Crating & Packing, Inc.*, 731 F.2d 818, 826 (Fed. Cir. 1983)

(“substantially equal to” found not indefinite); *see Anchor Wall Sys, Inc. v. Rockwood Retaining Walls, Inc.*, 340 F.3d 1298, 1310–11 (Fed. Cir. 2003) (“[W]ords of approximation, such as ‘generally’ and ‘substantially,’ are descriptive terms commonly used in patent claims to avoid a strict numerical boundary to the specified parameter.”) (citations and internal quotation marks omitted); *see also Deere & Co. v. Bush Hog, LLC*, 703 F.3d 1349, 1359 (Fed. Cir. 2012) (“This

court has repeatedly confirmed that relative terms such as ‘substantially’ do not render patent claims so unclear as to prevent a person of skill in the art from ascertaining the scope of the claim. . . . ‘The criticized words [“approach each other,” “close to,” “substantially equal,” and “closely approximate”] are ubiquitous in patent claims.’”) (quoting *Andrew Corp. v. Gabriel Elecs. Inc.*, 847 F.2d 819, 821 (Fed. Cir. 1988) (the square bracketed text appears in *Deere*)); *Ecolab, Inc. v. Envirochem, Inc.*, 264 F.3d 1358, 1367 (Fed. Cir. 2001) (as to the term “substantially uniform”: “We note that like the term ‘about,’ the term ‘substantially’ is a descriptive term commonly used in patent claims to avoid a strict numerical boundary to the specified parameter.”) (citations and internal quotation marks omitted); *Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325, 1332–36 (Fed. Cir. 2010) (“not interfering substantially” did not render claim indefinite).

These relevant legal principles have been confirmed after *Nautilus*. See *Interval Licensing*, 766 F.3d at 1370 (“Claim language employing terms of degree has long been found definite where it provided enough certainty to one of skill in the art when read in the context of the invention.”) (citing *Eibel Process Co. v. Minn. & Ontario Paper Co.*, 261 U.S. 45, 65–66 (1923)); see also *Sonix*, 844 F.3d at 1377 n.2 (“Although *Enzo* [(cited above)] was decided before the introduction of the ‘reasonable certainty’ standard, we have relied on it in our post-*Nautilus* decisions.”) (citing *Interval Licensing*, 766 F.3d at 1370); *Biosig Instruments, Inc. v. Nautilus, Inc.*, 783 F.3d 1374, 1381 (Fed. Cir. 2015); *Tinnus Enters., LLC v. Telebrands Corp.*, 846 F.3d 1190, 1205–06 (Fed. Cir. 2017) (under plain error review, applying *Nautilus* and affirming finding that “substantially filled” was not indefinite); *Exmark Mfg. Co. v. Briggs & Stratton Power Prods. Grp., LLC*, 879 F.3d 1332, 1344–47 (Fed. Cir. 2018) (“substantially straight” found not indefinite).

The Federal Circuit’s post-*Nautilus* discussion in *Apple Inc. v. Samsung Electronics Co., Ltd.* is informative:



Claim 50 of the '163 patent relates to a user interface feature in which a user's double tapping on a portion of an electronic document causes the portion to be enlarged and "substantially centered" on the display. . . . Samsung contends that claim 50 is indefinite because the '163 patent provides "no objective standard to measure the scope of the term 'substantially centered.'"

Samsung's complaint about a lack of an "objective standard [of] measure" is seeking a level of precision that exceeds the definiteness required of valid patents. "The definiteness requirement . . . mandates clarity, while recognizing that absolute precision is unattainable." *Nautilus, Inc. v. Biosig Instruments, Inc.*, --- U.S. ---, 134 S.Ct. 2120, 2129, 189 L.Ed.2d 37 (2014). Given this recognition, "a patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Id.* at 2124.

Samsung, however, points to no evidence showing that skilled artisans would find the element "substantially centered" as lacking reasonable certainty in its scope. In contrast, Apple's expert explained that the "padding" allowed in the '163 patent provides skilled artisans with enough information to understand what "substantially centered" means in the patent. . . . Apple's expert cites a discussion in the specification of an embodiment referring to the figure reproduced below where the enlarged portion of the document is essentially centered except for "a predefined amount of padding along the sides of the display." . . . [figure omitted]

Apple thus presented evidence to show that skilled artisans would interpret "substantially centered" in the '163 patent to mean essentially centered except for a marginal spacing to accommodate ancillary graphical user interface elements. We are not persuaded by Samsung's attempt to discredit this expert testimony. We therefore agree with the district court that Samsung failed to carry its burden in challenging the validity of claim 50 of the '163 patent for indefiniteness.

*Apple Inc. v. Samsung Elecs. Co., Ltd.*, 786 F.3d 983, 1002–03 (Fed. Cir. 2015), *reversed on other grounds by Samsung Elecs. Co., Ltd. v. Apple, Inc.*, 137 S. Ct. 429 (2016). Thus, the analysis set forth in *Apple* reinforces that pre-*Nautilus* legal precedents regarding terms of degree remain relevant when evaluating the disputed term here at issue. *See id.*; *see also Interval Licensing*, 766 F.3d at 1370; *Biosig*, 783 F.3d at 1381; *Tinnus*, 846 F.3d at 1205–06; *Exmark*, 879 F.3d at 1344–47.

Also, in the present case, the specification discloses features that might prevent the surface from being perfectly planar, such as lines, borders, distinct portions, and flexing. *See '846 Patent*

at 5:10–30 (“individually-moving portions of the [touch]pad”), 8:36–44 (“the touchpad 16 itself preferably has some compliance to allow portions of the pad to move in response to actuator forces”) & 14:20–26 (“different regions can be physically marked with lines, borders, or textures on the surface of the [touch]pad 16”). The specification thus provides context for understanding the meaning of the term “approximately planar touch surface,” particularly in light of the overall purpose of a touch surface as being for accepting touch input. *See, e.g.*, ’846 Patent at 1:43–55.

Further, the opinions of Plaintiff’s expert are persuasive that absolute precision may not be possible or practical and that a touch surface may need to allow for some movement. (*See* Dkt. No. 72-10, Aug. 28, 2018 Howe Decl., at ¶¶ 36–41; *see also* Dkt. No. 74-1, Sept. 18, 2018 Howe Suppl. Decl., at ¶¶ 16–18.)<sup>6</sup>

The opinions of Defendants’ expert as to indefiniteness are unpersuasive. (*See* Dkt. No. 73, Ex. 1, Sept. 11, 2018 Wolfe Decl., at ¶¶ 53–62.) Likewise, the authorities cited by Defendants involved different terms in different patents and are not controlling here. *See Intellectual Ventures I LLC v. T-Mobile USA, Inc.*, 902 F.3d 1372, 1381 (Fed. Cir. 2018) (finding “optimize” indefinite in the context of claim language reciting “optimize end user application IP [(internet protocol)] QoS [(quality of service)] requirements”); *see also Geodynamics, Inc. v. Dynaenergetics US, Inc.*, No. 2:15-CV-1546-RSP, 2016 WL 6217181, at \*16 (E.D. Tex. Oct. 24, 2016) (finding indefinite “a clear tunnel depth substantially equal to the total depth of penetration”); *e.Digital Corp. v.*

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<sup>6</sup> *See Verve*, 311 F.3d 1119:

While reference to intrinsic evidence is primary in interpreting claims, the criterion is the meaning of words as they would be understood by persons in the field of the invention. Patent documents are written for persons familiar with the relevant field; the patentee is not required to include in the specification information readily understood by practitioners, lest every patent be required to be written as a comprehensive tutorial and treatise for the generalist, instead of a concise statement for persons in the field.

*Futurewei Techs., Inc.*, 772 F.3d 723, 727 (Fed. Cir. 2014) (noting “the well-understood notion that claims of unrelated patents must be construed separately”).

The Court therefore hereby expressly rejects Defendants’ indefiniteness arguments. No further construction is necessary. *See U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997) (“Claim construction is a matter of resolution of disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims, for use in the determination of infringement. It is not an obligatory exercise in redundancy.”); *see also O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008) (“[D]istrict courts are not (and should not be) required to construe every limitation present in a patent’s asserted claims.”); *Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197, 1207 (Fed. Cir. 2010) (“Unlike *O2 Micro*, where the court failed to resolve the parties’ quarrel, the district court rejected Defendants’ construction.”); *ActiveVideo Networks, Inc. v. Verizon Commcn’s, Inc.*, 694 F.3d 1312, 1326 (Fed. Cir. 2012); *Summit 6, LLC v. Samsung Elecs. Co., Ltd.*, 802 F.3d 1283, 1291 (Fed. Cir. 2015); *Acumed LLC v. Stryker Corp.*, 483 F.3d 800, 806 (Fed. Cir. 2007) (“[A] sound claim construction need not always purge every shred of ambiguity. The resolution of some line-drawing problems . . . is properly left to the trier of fact.”) (citing *PPG Indus. v. Guardian Indus. Corp.*, 156 F.3d 1351, 1355 (Fed. Cir. 1998) (“after the court has defined the claim with whatever specificity and precision is warranted by the language of the claim and the evidence bearing on the proper construction, the task of determining whether the construed claim reads on the accused product is for the finder of fact”)); *see also Eon Corp. IP Holdings LLC v. Silver Spring Networks, Inc.*, 815 F.3d 1314, 1318–19 (Fed. Cir. 2016) (citing *Acumed* and *PPG*).

The Court accordingly hereby construes “**approximately planar touch surface**” to have its **plain meaning**.

#### D. “touch screen”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
No construction is necessary. If construed, the term should be given its plain and ordinary meaning, within the context of the claim and consistent with the intrinsic evidence, which is a “display device that allows a user to provide input by touching an area on the device.” A touch screen may include a touch surface, a touch sensor, a local microprocessor, and a display.	“a display device that allows a user to provide input by touching an area on the device, and may include a touch surface, a display, and a touch sensor but not the bezel, chassis or controller”

(Dkt. No. 66, Ex. A, at 1; Dkt. No. 76, Ex. A, at 6–9.) The parties submit that this term appears in Claims 10, 13, and 19 of the ’720 Patent and Claims 1 and 8 of the ’181 Patent. (Dkt. No. 66, Ex. A, at 1; Dkt. No. 76, Ex. A, at 6–9.)

##### (1) The Parties’ Positions

Plaintiff argues that “[a] ‘touch screen’ is a type of ‘touch input device,’” and “Samsung’s proposed exclusion of a bezel, chassis, or controller from ‘touch screen’ is therefore improper for the same reasons discussed with respect to ‘touch input device.’” (Dkt. No. 72, at 19.)

Defendants’ response brief and Plaintiff’s reply brief present arguments as to this term together with the term “touch input device,” which is addressed above. (*See* Dkt. No. 73, at 14–23; *see also id.*, at 14 n.9; Dkt. No. 74, at 5–8.)

##### (2) Analysis

In *HTC*, the District of Delaware construed “touch screen” to mean “a display device that allows a user to provide input by touching an area on the device, and may include a touch surface, a display, and a touch sensor.” *HTC Memorandum Opinion*, at 4–5.

This disputed term presents the same issues as “touch input device” in the ’846 Patent except that Defendants have presented evidence from a reexamination of the ’720 Patent. “A

patentee's statements during reexamination can be considered during claim construction, in keeping with the doctrine of prosecution disclaimer." *See 01 Communique Lab., Inc. v. LogMeIn, Inc.*, 687 F.3d 1292, 1297 (Fed. Cir. 2012). The patentee stated the following regarding the "Tsuji" reference (Japanese Patent Application Publication No. 11-212725):

... Tsuji does not teach the combination of features recited by claim 10, in particular a touch screen that is operative to output a first signal indicative of a contacted location, and a touch screen that includes a first region associated with a cursor positioning and a least one other region, distinct from the first region, associated with a control functionality different from cursor positioning. For example, *the signals output by touch panel 10T of Tsuji are not indicative of a contacted location, because the signals must be processed by operation position specifying unit 51T* to indicate the operation position (the location of the user's press) on the touch panel 10T.

(*See* Dkt. No. 73, Ex. 16, June 3, 2013 Amendment in Response to Office Action Dated April 2, 2013, at 7 (emphasis added); *see id.*, at 17 (similar).)

Defendants have characterized the patentee's statements as follows:

Tsuji teaches a component that accepts signals from the touch panel, processes those signals into coordinate data, and then forwards the coordinate data to other components for determining any related action. . . . Immersion argued that such a component is not part of the touch screen, but rather is part of the device's overall control unit. . . . In other words, Immersion argued that under the ordinary meaning of the claims, a controller or microprocessor utilized in conjunction with a touch panel to generate coordinate-based data would fall outside the scope of the claimed "touch screen."

(Dkt. No. 73, at 19–20.)

Defendants have not shown how the cited statements by the patentee give rise to any relevant disclaimer. To the extent the patentee's statements can be interpreted as stating that Tsuji did not include necessary signal processing within its touch screen, this does not amount to a definitive statement that "touch screens" in general cannot include a processor. *See Omega Eng'g Inc. v. Raytek Corp.*, 334 F.3d 1314, 1324 (Fed. Cir. 2003) ("As a basic principle of claim interpretation, prosecution disclaimer promotes the public notice function of the intrinsic evidence

and protects the public’s reliance on *definitive* statements made during prosecution.”) (emphasis added); *see also id.* at 1325–26 (“[F]or prosecution disclaimer to attach, our precedent requires that the alleged disavowing actions or statements made during prosecution be both *clear and unmistakable*”) (emphasis added).<sup>7</sup>

Finally, for the same reasons set forth above as to “touch input device,” reference to what a “touch screen” “may include” is omitted from the construction.

Based on the foregoing, as well as based on the analysis set forth above for the term “touch input device” (as to which the parties have presented consolidated arguments together with the present disputed term), the Court hereby construes **“touch screen”** to mean **“a display device that allows a user to provide input by touching an area on the device.”**

## V. CONCLUSION

The Court adopts the constructions set forth in this opinion for the disputed terms of the patent-in-suit, and in reaching conclusions the Court has considered extrinsic evidence. The Court’s constructions thus include subsidiary findings of fact based upon the extrinsic evidence presented by the parties in these claim construction proceedings. *See Teva*, 135 S. Ct. at 841.

The parties are ordered that they may not refer, directly or indirectly, to each other’s claim construction positions in the presence of the jury. Likewise, the parties are ordered to refrain from mentioning any portion of this opinion, other than the actual definitions adopted by the Court, in the presence of the jury. Any reference to claim construction proceedings is limited to informing the jury of the definitions adopted by the Court.


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<sup>7</sup> The Court need not reach any dispute as to whether the reexamination prosecution history of the ’720 Patent can be applied to the “cousin” ’181 Patent (these two patents share a common “grandparent”).

Within thirty (30) days of the issuance of this Memorandum Opinion and Order, the parties are hereby ORDERED, in good faith, to mediate this case with the mediator agreed upon by the parties. As a part of such mediation, each party shall appear by counsel (with lead and local counsel present and participating) and by at least one corporate officer possessing sufficient authority and control to unilaterally make binding decisions for the corporation adequate to address any good faith offer or counteroffer of settlement that might arise during such mediation. Failure to do so shall be deemed by the Court as a failure to mediate in good faith and may subject that party to such sanctions as the Court deems appropriate. No participant shall leave the mediation without the approval of the mediator.

**So Ordered this**

**Oct 15, 2018**

  
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RODNEY GILSTRAP  
UNITED STATES DISTRICT JUDGE